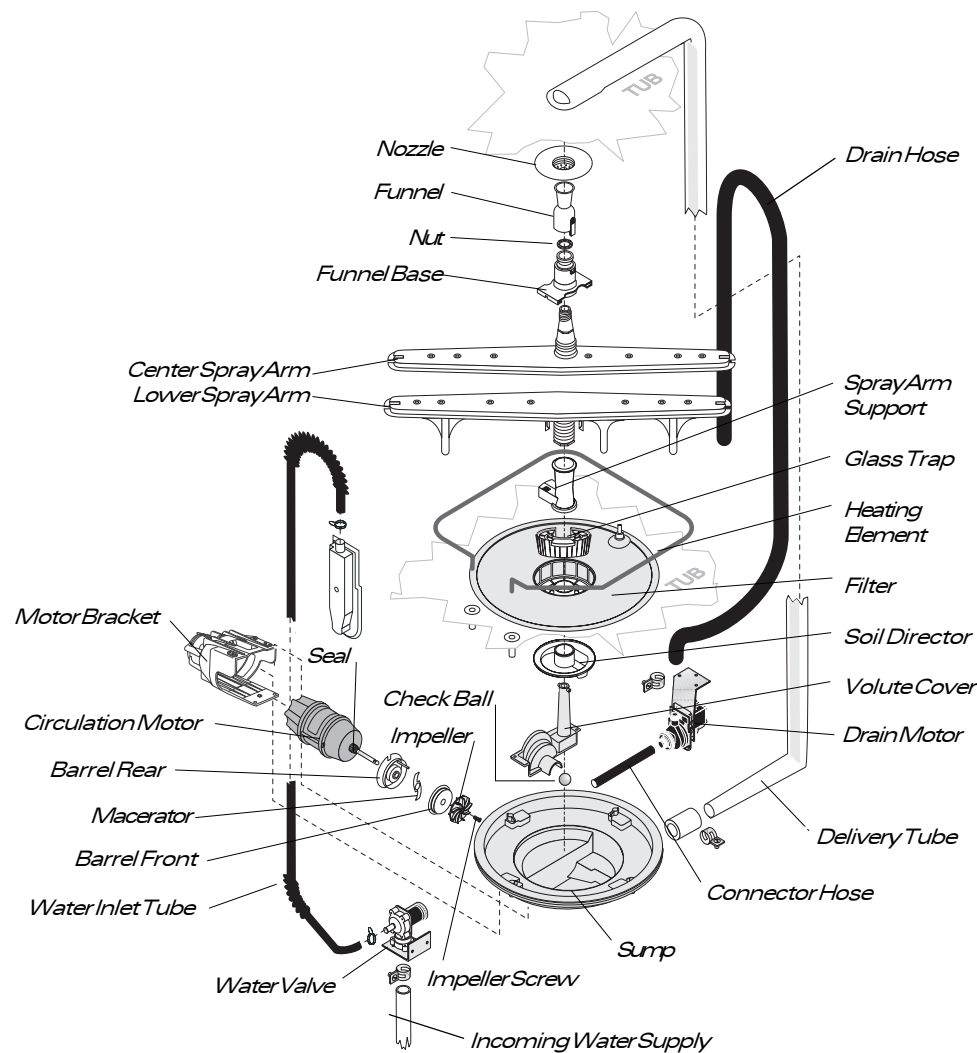


Exploded View of Wash System



Pump Assembly

The pump assembly is driven by a 1/12 HP, shaded pole motor. Rotation is in the counterclockwise direction at 3100 to 3200 RPM. The motor drives a pump which supplies 100 percent filtered water at a rate of approximately 12 GPM to one spray arm at a time. The spray arm's operation is alternated by small "pauses" of the motor during the wash cycle.

Draining is accomplished by using a small separate synchronous drain pump mounted to the side of the sump. The drain pump is connected to the main pump by a small rubber hose. The drain check valve is located at the entrance to the drain pump. The drain hose is attached by a worm gear clamp to the discharge of the drain pump. The drain is then routed up the side of the dishwasher and attached to the side of the tub. This drain loop insures that an air pocket cannot form near the drain pump and cause the pump to

900 Watt Heater

Refer to the cycle chart on the reverse side to determine when the heater is on during the wash cycle. The heater cycles ON and OFF for brief periods during the drying cycle.

airlock. The drain loop on the side of the tub must be kept in place after servicing.

The main pump can easily be removed by disconnecting the upper spray arm supply tube, the drain pump connector hose, and the wiring harness connections made at the circulation motor and the water heat thermistor located on the bottom of the pump.

Once the pump assembly is removed from the dishwasher, the motor/impeller assembly can be removed from the sump by taking out the three (3) T-20 Torx head screws from the aluminum motor bracket and then the three (3) T-20 Torx head screws from the volute cover. Using a large flat head screwdriver inserted between the impeller screw and the sump's volute, the motor/impeller assembly can be gently pried out of the sump. Use the screwdriver as a lever.

Voltage checks of the heaters should be made in the dry portion of the service test mode.

Standard Dry Air Flow

When the control advances to the "dry" portion of the cycle, a linear actuator retracts a valve, which opens a vent path through the console into the kitchen. This venting method eliminates discharging heated moisture into the motor compartment. The heated, moist air leaving the dishwasher through the console vent causes

drier air to be drawn into the unit by way of intake vents located at the bottom of the door. The water on the dishes is evaporated into drier air and the venting process continues. The heating element is turned ON and OFF during the entire drying cycle.

Detergent and Rinse Aid Dispenser

The detergent and rinse aid dispenser is a one piece component consisting of a molded detergent cup and a built-in rinse aid dispenser.

The detergent cup has a spring loaded cover and the rinse aid dispenser has a removable cover.

Liquid rinse aid is added to the dispenser up to the fill line indicator. The amount of rinse aid released can be adjusted by turning the arrow indicator from one, being the least amount, to four, being the greatest amount.

To replace dispenser:

- shut off electricity to dishwasher,
- remove outer door panel assembly,
- disconnect wiring to the actuator,

- remove the six screws,
- remove the dispenser,
- replace and reinstall screws,
- rewire actuator.

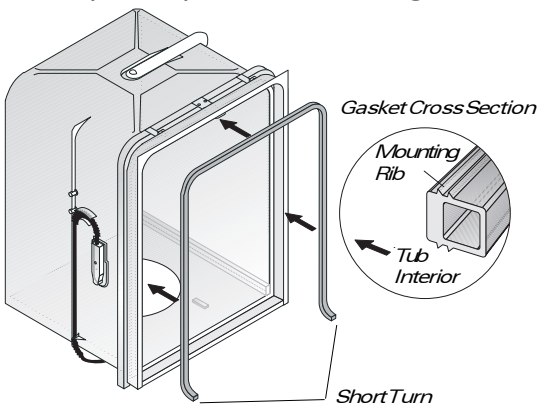
To replace actuator:

- shut off electricity to dishwasher,
- disconnect wiring to the actuator,
- place a flat head screwdriver under the actuator body and between the dispenser housing and terminal side, twist and lift up on the actuator being careful not to damage the retainer snap-fits,
- replace with new actuator by pressing into place,
- rewire actuator.

Tub and Door Seal

The door seal is pressed into the tub channel for an interference fit. Center the gasket (marked on back) at the tub top center and press in place

without stretching or bunching. The gasket takes a short turn at the bottom of the tub channel before ending at the channel end wall.



Product Specifications

Electrical

|                          |                                                     |
|--------------------------|-----------------------------------------------------|
| Rating                   | 120 Volts, 60 Hz                                    |
| Separate Circuit         | 15 amp min. - 20 amp max.                           |
| Motor (HP)               | 1/12                                                |
| Motor (Amps)             | 3.4                                                 |
| Heater Wattage           | 900                                                 |
| Total Amps (load rated)  | 11.0                                                |
| Temp Assure              | 136°F ± 5°F (58°C ± 3°C) [with outer door in place] |
| Temp Boost               | 144°F ± 5°F (62°C ± 3°C)                            |
| Heated Wash/Heated Rinse |                                                     |
| Hi-Limit Thermostat      | 200°F (93°C)                                        |

Water Supply

|                                              |                                           |
|----------------------------------------------|-------------------------------------------|
| Suggested minimum incoming water temperature | 120°F (49°C)                              |
| Pressure (PSI) min./max.                     | 20/120                                    |
| Connection (NPT)                             | 3/8"                                      |
| Consumption (Normal Cycle)                   | 6.0 U.S. gal., 5.0 Imp. gal., 22.7 liters |
| Water valve flow rate (U.S. GPM)             | .83                                       |
| Water recirculation rate (U.S. GPM)          | approx. 12                                |
| Water fill time                              | 87 sec.                                   |

Trouble Shooting Tips

⚠ WARNING

Personal Injury Hazard

Always disconnect the dishwasher from the electrical power source before adjusting or replacing components.

| Symptom                                                 | Check the Following                                                                                                                                                                                                                                                                                                                                                                                      | Remedy                                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dishwasher will not operate when turned on.             | 1. Fuse (blown or tripped).<br>2. 120 VAC supply wiring connection faulty.<br>3. Electronic control board defective.<br>4. No 12 VAC power to control.<br>5. Motor (inoperative, check resistances).<br>6. Door switch (open contacts).<br>7. Door latch not making contact with door switch.<br>8. Touch pad circuit defective.<br>9. No indicator lamps illuminate when START or OPTION S are pressed. | 1. Replace fuse or reset breaker.<br>2. Repair or replace wire fasteners at dishwasher junction box.<br>3. Replace control board.<br>4. Replace transformer.<br>5. Replace motor/impeller assembly.<br>6. Replace door switch.<br>7. Replace latch assembly.<br>8. Replace console assembly.<br>9. Replace console assembly. |
| Motor hums but will not start or run.                   | 1. Motor (bad bearings or locked rotor).<br>2. Motor stuck due to prolonged non-use.                                                                                                                                                                                                                                                                                                                     | 1. Replace motor.<br>2. Rotate motor fan or impeller.                                                                                                                                                                                                                                                                        |
| Motor trips out on internal thermal overload protector. | 1. Improper voltage.<br>2. Seal faces binding.<br>3. Motor shaft binding.<br>4. Motor windings shorted.<br>5. Glass or foreign items in pump.                                                                                                                                                                                                                                                            | 1. Check voltage.<br>2. Rotate motor fan or impeller, or replace.<br>3. Clear blockage or replace.<br>4. Replace motor/impeller assembly.<br>5. Clean and clear blockage.                                                                                                                                                    |
| Dishwasher runs but will not heat.                      | 1. Heater element (open).<br>2. Electronic control board defective.<br>3. Wiring or terminal defective.<br>4. Hi-Limit thermostat defective.                                                                                                                                                                                                                                                             | 1. Replace heater element.<br>2. Replace control board.<br>3. Repair or replace.<br>4. Replace thermostat.                                                                                                                                                                                                                   |
| Detergent cover will not latch or open.                 | 1. Latch mechanism defective.<br>2. Electronic control board defective.<br>3. Wiring or terminal defective.<br>4. Broken spring(s).<br>5. Defective actuator.                                                                                                                                                                                                                                            | 1. Replace dispenser.<br>2. Replace control board.<br>3. Repair or replace.<br>4. Replace dispenser.<br>5. Replace actuator.                                                                                                                                                                                                 |
| Dishwasher will not pump out.                           | 1. Drain restricted.<br>2. Electronic control board defective.<br>3. Defective drain pump.<br>4. Air lock in drain hose.<br>5. Blocked impeller.<br>6. Open windings.<br>7. Wiring or terminal defective.                                                                                                                                                                                                | 1. Clear restrictions.<br>2. Replace control board.<br>3. Replace pump.<br>4. Make sure hose is attached in proper position on side of tub.<br>5. Check for blockage, clear.<br>6. Replace windings.<br>7. Repair or replace.                                                                                                |
| Dishwasher will not fill with water.                    | 1. Water supply turned off.<br>2. Defective water inlet fill valve.<br>3. Check fill valve screen for obstructions.<br>4. Defective float switch.<br>5. Electronic control board defective.<br>6. Wiring or terminal defective.<br>7. Float stuck in "UP" position.                                                                                                                                      | 1. Turn water supply on.<br>2. Replace water inlet fill valve.<br>3. Disassemble and clean screen.<br>4. Repair or replace.<br>5. Replace control board.<br>6. Repair or replace.<br>7. Clean float.                                                                                                                         |
| Dishwasher water siphons out.                           | 1. Drain hose (high) loop too low.<br>2. Drain line connected to a floor drain not vented.<br>3. Drain hose not connected to side of tub.                                                                                                                                                                                                                                                                | 1. Repair to proper height.<br>2. Install air gap at counter top.<br>3. Reattach drain hose.                                                                                                                                                                                                                                 |
| Detergent left in dispenser.                            | 1. Detergent allowed to stand too long in dispenser.<br>2. Dispenser wet when detergent was added.<br>3. Detergent cover held closed or blocked by large dishes.<br>4. Improper incoming water temperature to properly dissolve detergent.<br>5. See "Detergent cover will not open."                                                                                                                    | 1. Instruct customer/user.<br>2. Instruct customer/user.<br>3. Instruct customer/user on proper loading of dishes.<br>4. Incoming water temperature of 120°F is required to properly dissolve dishwashing detergents.                                                                                                        |

# SERVICE DATA SHEET

**P/N: 1543553501**

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** FRIGIDAIRE**

**Model: FDB935**

**FRIGIDAIRE**  
**Model: FDB935**

## Notes

## Color Code

|            |             |
|------------|-------------|
| BK.....    | Black       |
| BK-WV..... | Black/White |
| BU.....    | Blue        |
| PK.....    | Pink        |
| R.....     | Red         |
| R-BK.....  | Red/Black   |
| R-Y.....   | Red/Yellow  |
| V.....     | Violet      |
| W.....     | White       |
| W-BK.....  | White/Black |

**If not in power failure mode:** Cancel any cycle and, with the door latched, press for 3 seconds HI-TEMP WASH and START/CANCEL pads.

|                       |                                                                                                                                                      |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| ADD-A-DISH            | Dishes may be added now. The indicator light will switch off after the detergent dispenser activates and will remain off for the remainder of cycle. |
| WASHING               | Wash portion of cycle.                                                                                                                               |
| RINSING               | Rinsing portion of cycle.                                                                                                                            |
| DRYING                | Drying portion of cycle.                                                                                                                             |
| CLEAN                 | Shows completion of cycle. Indicator light will switch off when door is opened.                                                                      |
| OPTION LED's Flashing | HI-TEMP WASH and NO HEAT DRY LED's flashing indicates power failure has occurred. Press START/CANCEL pad and reselect desired options and cycle.     |
| STATUS LED's Flashing | The STATUS LED's that are lit when the door is opened will flash. Close door and press START/CANCEL pad to resume cycle.                             |
| DISPLAY               | 'PF' Power Fail, 'CL' Door Open, 'HO' Water Heating, '8h' Delay before Start.                                                                        |

| Diagnostic  | Time<br>Seconds | LEDs | Outputs |
|-------------|-----------------|------|---------|
| ADD-A-DISH  | 1               |      |         |
| WASHING     | 60              |      |         |
| RINSING     | 90              |      |         |
| DRYING      | 30              |      |         |
| CLEAN       | 0.6             |      |         |
| INTERVAL    | 1               |      |         |
| WASH MOTOR  | 1               |      |         |
| DRAIN MOTOR | 30              |      |         |
| FILL VALVE  | 60              |      |         |
| HEATER      | 90              |      |         |
| DISPENSER   | 30              |      |         |
| VENT        | 60              |      |         |
|             | END             |      |         |

The schematic diagram illustrates the electrical control system for a washing machine. The central component is the **ELECTRONIC CONTROL UNIT**, which manages the operation of various motors and valves. The system is powered by a 120VAC 60Hz supply, with L1 and BK lines. Key components and their connections include:

- PUMP MOTOR (4.3 OHMS):** Connected to the control unit via a membrane switch (PK03) and a pump motor switch (BU).
- DRAIN MOTOR (28 OHMS):** Connected to the control unit via a drain motor switch (W).
- THERMISTOR (10000 OHMS @ 25 C):** Connected to the control unit via a thermistor switch (Y).
- DISPENSER (1928 OHMS):** Connected to the control unit via a dispenser switch (R-Y).
- VENT SYSTEM (1893 OHMS):** Connected to the control unit via a vent system switch (R-BK).
- HEATER (9.28 OHMS):** Connected to the control unit via a heater switch (W).
- WATER VALVE (699 OHMS):** Connected to the control unit via a water valve switch (W).
- DOOR SWITCH:** Connected to the control unit via a door switch (W).
- FLOAT SWITCH:** Connected to the control unit via a float switch (PK).
- TRANSFORMER (XFRM):** A transformer with primary (PRI) and secondary (SEC) windings, connected to the control unit via a transformer switch (W).
- MEMBRANE SWITCH (PK03):** A switch located near the pump motor, connected to the control unit.
- DISPLAY (PH02):** A digital display connected to the control unit.

The diagram also shows the wiring for the door switch, float switch, and the transformer, indicating the flow of current through the system.

### Cycle Selection Options

961203